CENTRAL INTELLIGENCE AGENCY

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1. Soviet geologic literature such as Betekhin's "Mineralogy", 1950, and OA Songyna's "Rare Metals", 1951, does not contain any data about location, output, or reserves of beryl. The last edition of the "Bolshaya Soviet Encyclopedia" does not include any information about beryl except a statement that beryllium is of great importance as a metal for atomic research and for X-ray apparatus. [redacted] large concentrations of beryl are rare, and beryl and tin are classified as deficit minerals. Songyna states that the beryllium minerals which can be exploited as sources for the metal beryllium are beryl (5% Be), helvite, and aquamarine (small fragments). Other beryllium minerals such as phenacite and chrysoberyl do not have great industrial value because of limited distribution. Emerald, alexandrite, and demantoid have mineralogical value as gems. Beryl and its varieties are most often found in granite rocks and mica schists, either in granite or pegmatite veins. It has also been noted in gold placers, and other sources include bauxite, kaolin, coal ash, and nephelite-syenite, all of which contain very small quantities of beryllium.

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2. Beryllium minerals are widely distributed. The most important producing regions are in the Sverdlovsk district of the Ural Mountains and in Transbaikalien (the area east of Lake Baikal). Beryllium minerals are also found in the Altai Mountains, the Lena River Valley, and the western Ukraine, but geologic literature indicates that these deposits are of little economic importance. The principal deposits in the USSR are:

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a. In the Murzinka (57 42N - 61 01E) region, 80-100 kilometers northeast of Sverdlovsk (56 50N - 60 38E) -- the oldest known Soviet deposit, discovered in 1668. Aquamarine, common beryl, morganite, and herderite are present in pegmatite veins, but according to Betekhin (1946), the deposit is largely exhausted. 50X1

b. In the Takowaya [sic] River Valley of the Sverdlovsk area near Sretenka (54 03N - 65 44E) -- phenacite, emerald, and aquamarine. Alexandrite and chrysoberyl important as gems occur here in gold bearing sands. There is no available data about the deposits' economic value.

c. In the Ilmen Mountains [Il'menskiye Gory (Mts)] (55 15N, 60 12E) near Miask [Miass 55 02N - 60 06E] -- helvite containing beryllium ore.

d. In the Sanarka Valley [Sakmara 51 45N - 55 03E] near Orenburg [Chkalov 51 45N - 55 06E] -- alexandrite and chrysoberyl, important as gems, in gold bearing sands.

e. At Sysertsk [Sysert 56 29N - 60 50E] -- demantoid.

f. At the Izumrudnyie Kopi (emerald mine) [Izumrud 57 05N - 61 25E] -- 92 kilometers northeast of Sverdlovsk and 12 kilometers west of the Bazhenovo [Bazhenovo 56 45N - 61 23E] asbestos deposit. Beryllium minerals associated with pegmatite veins and with chlorite-actinolite schists are mined here at a depth of 75 meters. This is the USSR's most important deposit of beryl and its varieties and the deposit is composed mostly of the gems alexandrite, emerald, phenacite, chrysoberyl, and common beryl. It was discovered in 1831 and is comparable in importance to the greatest US deposits according to Betekhin. The mine has exploited beryl since 1928 as a source of the metal beryllium and fragments of emerald, otherwise useful as gems, are being mined for the same purpose.

g. In Transbaikalia at Savatyeiowo [Savel'yevskaya, 56 06N, 100 01E] Nerchinsk (51 58N - 116 35E) district, between the Onon (51 41N - 115 47E) and Shilka (53 20N - 121 26E) Rivers in the Adun-Cholon Mountains, especially at Sherlovaya Gora (50 35N - 116 21E) -- beryl, morganite, and aquamarine with topaz. According to the Soviet Encyclopedia of 1926, this deposit was not being exploited. More recently, 50X1 however [redacted] beryl deposits were surveyed and are producing some [sic] tons of beryllium per year.

h. Near Irkutsk (52 16N - 104 20E) in Siberia -- bertrandrite deposit.

i. In Pamir [Pamir Mts] (38 00N, 73 00E) in Mongolia at Soktouy [Soktuy 50 04N - 117 48E] on the Argun River. No exact data about economic value.

j. In the Ukraine in Volnynien [sic] at Ovrouch [sic] Mariupol (47 05N - 37 36 E) district -- beryl deposits of little economic significance.

k. In the Satellites -- a small reserve of beryl in Polish Silesia at Strikov and another in North Korea.

3. The following table shows the output of beryl and its varieties in 1927-28: 50X1

Name	Location	Carats	Price (Rubles per Carat)	Total Value (Rubles)	Reserves
Emerald	Izumrudnyie Kopi	25,000	25	625,000	2 million carats
Alexandrite	" "	250	50	12,500	1 ton
Phenacite	" "	1,000	5	5,000	1 ton
Demantoid	Sysertsk	12,000	5	60,000	no data
Morganite	Transbaikalia	500	3	1,500	small
Beryl Aquamarine	Murzinka Aduyi /Aduy 57 19N - 61 00E/ Transbaikalia	10,000	0.2	2,000	considerable

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